

WHAT IS CLAIMED IS:

1. A filtering apparatus, interposed between a client and a server, said server providing services depending on access requests from said client, for passing to said server  
5 only a correct access request from said client, said filtering device comprising:

an incorrect pattern database which stores patterns of incorrect accesses to said server;

an estimation unit which estimates the correctness  
10 of the access request on the basis of the patterns of incorrect accesses stored in said incorrect pattern database and a predetermined estimation rule; and

a decision unit which decides, on the basis of a result of estimation by said estimation unit and a predetermined  
15 decision rule, whether the access request is to be passed to said server.

2. The filtering apparatus according to claim 1, wherein said estimation unit estimates that the access request is  
20 an incorrect access when the access request corresponds to any one of the patterns of incorrect accesses stored in said incorrect pattern database, and estimates that the access request is a correct access when the access request does not correspond to any one the patterns of incorrect accesses  
25 stored in the incorrect pattern database, and

said decision unit decides that the access request which is estimated as an incorrect access by said estimation unit is not to be passed to said server, and decides that the access request which is estimated as a correct access  
5 by said estimation unit is to be passed to said server.

3. The filtering apparatus according to claim 1, wherein said estimation unit calculates a predetermined estimation value depending on the degree of correspondence between the  
10 access request and the patterns of incorrect accesses stored in said incorrect pattern database, and

said decision unit compares the estimation value calculated by said estimation unit with a predetermined threshold value to decide whether the access request is to  
15 be passed to said server.

4. The filtering apparatus according to claim 1 further comprising:

a correct pattern database which stores patterns of  
20 correct accesses to said server; and

an advance decision unit which decides whether the access request corresponds to any one of the patterns of correct accesses stored in said correct pattern database prior to estimation of correctness performed by said  
25 estimation unit,

wherein said estimation unit estimates correctness of only that access request which said advance decision unit decides that does not correspond to the patterns of correct accesses stored in said correct pattern database.

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5. The filtering apparatus according to claim 1 further comprising an external transmission unit which transmits an access request which is decided not to be passed to said server by said decision unit to a predetermined external device on the basis of a predetermined external transmission rule.

6. The filtering apparatus according to claim 1 further comprising a storage unit which stores an access request which is decided not to be passed to said server by said decision unit on the basis of a predetermined storage rule.

7. The filtering apparatus according to claim 1 further comprising an updating unit which updates the incorrect pattern database, the correct pattern database, the estimation rule, the decision rule, the external transmission rule, the storage rule, or an updating rule on the basis of a predetermined updating rule.

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8. A filtering method of passing to a server only a correct access request from a client, said server providing services depending on access requests from said client, the method comprising the steps of:

5 referring to an incorrect pattern database in which the patterns of incorrect accesses to said server are stored to estimate correctness of the access request on the basis of the patterns of incorrect accesses which are referred to and a predetermined estimation rule; and

10 deciding, on the basis of result of the estimation at the estimation step and a predetermined decision rule, whether the access request is to be passed to said server.

9. The filtering method according to claim 8, wherein  
15 in the estimation step it is estimated that the access request is an incorrect access when the access request corresponds to any one of the patterns of incorrect accesses stored in the incorrect pattern database, and it is estimated the access request is a correct access when the access request  
20 does not correspond to any one the patterns of incorrect accesses stored in said incorrect pattern database, and

in the decision step it is decided that the access request which is estimated as an incorrect access at the estimation step is not to be passes to said server, and it  
25 is decided that the access request which is estimated as

a correct access at the estimation step is to be passed to said server.

10. The filtering method according to claim 8, wherein  
5 at the estimation step a predetermined estimation value is calculated depending on the degree of correspondence between the access request and the patterns of incorrect accesses stored in said incorrect pattern database, and

in the decision step the estimation value calculated  
10 at the estimation step is compared with a predetermined threshold value to decide whether the access request is to be passed to said server.

11. The filtering method according to claim 8 further  
15 comprising the advance decision step of deciding, with reference to a correct pattern database in which patterns of correct accesses to said server are stored, whether the access request corresponds to any one of the patterns of correct accesses stored in said correct pattern database  
20 prior to estimation of correctness performed by the estimation step,

wherein in the estimation step correctness of only  
an access request which is decided not to correspond to the  
patterns of correct accesses at the advance decision step  
25 is estimated.

12. The filtering method according to claim 8 further comprising the external transmission step of transmitting an access request which is decided not to be passed to said server at the decision step to a predetermined external  
5 device on the basis of a predetermined external transmission rule.

13. The filtering method according to claim 8 further comprising the storage step of storing an access request  
10 which is decided not to be passed to said server at the decision step on the basis of a predetermined storage rule.

14. The filtering method according to claim 8 further comprising the updating step of updating the incorrect  
15 pattern database, the correct pattern database, the estimation rule, the decision rule, the external transmission rule, the storage rule, or an updating rule on the basis of a predetermined updating rule.

20 15. A computer program containing instructions which when executed on a computer realizes a filtering method of passing to a server only a correct access request from a client, said server providing services depending on access requests from said client, the method comprising the steps of:

25 referring to an incorrect pattern database in which

the patterns of incorrect accesses to said server are stored to estimate correctness of the access request on the basis of the patterns of incorrect accesses which are referred to and a predetermined estimation rule; and

5        deciding, on the basis of result of the estimation at the estimation step and a predetermined decision rule, whether the access request is to be passed to said server.

16.    The computer program according to claim 15, wherein  
10    in the estimation step it is estimated that the access request is an incorrect access when the access request corresponds to any one of the patterns of incorrect accesses stored in the incorrect pattern database, and it is estimated the access request is a correct access when the access request  
15    does not correspond to any one the patterns of incorrect accesses stored in said incorrect pattern database, and

         in the decision step it is decided that the access request which is estimated as an incorrect access at the estimation step is not to be passes to said server, and it  
20    is decided that the access request which is estimated as a correct access at the estimation step is to be passed to said server.

17. The computer program according to claim 15, wherein  
at the estimation step a predetermined estimation value is  
calculated depending on the degree of correspondence between  
the access request and the patterns of incorrect accesses  
5 stored in said incorrect pattern database, and

in the decision step the estimation value calculated  
at the estimation step is compared with a predetermined  
threshold value to decide whether the access request is to  
be passed to said server.

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18. The computer program according to claim 15 further  
containing instructions which when executed on a computer  
realize the advance decision step of deciding, with reference  
to a correct pattern database in which patterns of correct  
15 accesses to said server are stored, whether the access  
request corresponds to any one of the patterns of correct  
accesses stored in said correct pattern database prior to  
estimation of correctness performed by the estimation step,

wherein in the estimation step correctness of only  
20 an access request which is decided not to correspond to the  
patterns of correct accesses at the advance decision step  
is estimated.

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19. The computer program according to claim 15 further containing instructions which when executed on a computer realize the external transmission step of transmitting an access request which is decided not to be passed to said  
5 server at the decision step to a predetermined external device on the basis of a predetermined external transmission rule.

20. The computer program according to claim 15 further  
10 containing instructions which when executed on a computer realize the storage step of storing an access request which is decided not to be passed to said server at the decision step on the basis of a predetermined storage rule.

21. The computer program according to claim 15 further  
15 containing instructions which when executed on a computer realize the updating step of updating the incorrect pattern database, the correct pattern database, the estimation rule, the decision rule, the external transmission rule, the  
20 storage rule, or an updating rule on the basis of a predetermined updating rule.